Hochschule Konstanz
University of Applied Sciences

Course number: MSI 26720
Concurrent Programming
Study Level: Master / Graduate

Prof. Dr. Oliver Haase
Language of instruction: English
ECTS Credits: 2

To be able to utilize the constantly growing number of available processors and cores, programs must be structured into tasks that multiple threads can execute concurrently. These tasks usually do not run entirely separately, but interact with each other to exchange interim state as well as final results. If not synchronized adequately, these interactions can lead to erroneous effects when executed in certain, unfavorable orders. Superfluous synchronization, on the other hand, leads to a diminished degree of parallelism.

In this course, students learn to develop correct and efficient concurrent programs. We will also consider actor systems that employ communication rather than cooperation as the means of interaction.